

RAIMONDI
Appl. No. 10/589,614
Atty. Ref.: 2149-199
Amendment
June 20, 2011

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A surgical Surgical instrument [[(1)]] for geometrical evaluation of an object [[(81)]] inside a body of a human being or animal, the instrument [[(1)]]comprising a handle [[(2)]], a reference device [[(5)]]and means for bringing said reference device [[(5)]]into the vicinity of said object [[(81)]], wherein said instrument [[(1)]]is adapted to co-operate~~co-operating~~ with an image acquisition device for acquiring at least one image of said reference device when it is in the vicinity of said object [[(81)]], wherein said reference device comprises a screen, wherein said screen can be brought from a first fold up state to an unfolded state and to a second fold up state, wherein said unfolded state is the state when said screen is in the vicinity of said object and said at least one image is being acquired and wherein said second fold up state is the state when said screen is recalled.

2. (Currently Amended) The surgical Surgical instrument [[(1)]]according to Claim 1, characterized in thatwherein said object [[(81)]]is a lesion of an internal tissue, typically a cartilage tissue of an articulation[[(8)]].

Claim 3. (Canceled)

4. (Currently Amended) The surgical Surgical instrument [[(1)]]according to Claim 1, characterized in thatwherein said screen reference device (5) has a color~~colour~~ substantially contrasting with the object [[(81)]]to be evaluated geometrically.

5. (Currently Amended) The surgical Surgical instrument [[(1)]] according to

Claim 4, characterized in that wherein said screen the reference device (5) has a dark grey or black colorcouleur.

6. (Currently Amended) The surgical Surgical instrument [[(1)]] according to

Claim 1, characterized in that itwherein said surgical instrument comprises a guide barrel [[(3)]] and a shank [[(4)]] sliding inside said guide barrel [[(3)]], the barrel [[(3)]] being able to be inserted inside the body and having a proximal end in the vicinity of the handle [[(23)]] and an opposite distal end which is open.

7. (Currently Amended) The surgical Surgical instrument [[(1)]] according to

Claim 6, characterized in that wherein the shank [[(4)]] has a head-piece [[(46)]] with support arms [[(43)]] for supporting said screen reference device (5).

8. (Currently Amended) The surgical Surgical instrument [[(1)]] according to

Claim 7, characterized in that the wherein said support arms [[(43)]] are pivotably mounted and are elastically movable between a first position where the reference device (5) screen is retracted and a second position where the reference device (5) screen is unfolded in the vicinity of the object [[(81)]] to be evaluated.

9. (Currently Amended) The surgical Surgical instrument [[(1)]] according to

Claim 6, characterized in that wherein said surgical instrument comprises a trigger and wherein the shank [[(4)]] is adapted to be moved from a[[the]] position where the reference device (5) screen is retracted inside the barrel [[(3)]] into [[the]]a position where the screen reference device (5) is unfolded in the vicinity of the object [[(81)]] to be evaluated by means of said[[a]] trigger [[(81)]] situated at the proximal end.

10. (Currently Amended) The surgical Surgical instrument [[(1)]] according to Claim 1, characterized in that it iswherein said surgical instrument also comprises a recall system (51, 23, 21) for recalling the screenreference device (5) from [[an]]said unfolded state position into said second retracted state retracted position.

11. (Currently Amended) The surgical Surgical instrument [[(1)]] according to Claim 10, characterized in that thewherein said recall system (51, 23, 21) comprises a wire [[(51)]] connected to the screen reference device (5) and to the handle [[(2)]]], said wire being slid able inside an axial cavity of a shankthe shank (4).

12. (Currently Amended) The surgical Surgical instrument [[(1)]] according to Claim 1, characterized in that thewherein said handle is preferably of the "scissors type["]handle.

13. (Currently Amended) The surgical Surgical instrument [[(1)]] according to Claim 1, characterized in that it wherein said instrument is at least partially made with polymer material and is of the disposable type.

14. (Withdrawn - Currently Amended) A method Method for performing the geometrical evaluation of an object [[(81)]] inside a body, the method comprising the steps of associating [[a]]the reference device [[(5)]] of the surgical instrument of claim 1 with the object [[(81)]] to be evaluated, acquiring at least one image of the object [[(81)]] associated with the reference device [[(5)]] and processing said at least one image in order to acquire said evaluation.

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15. (Withdrawn – Currently Amended) The method Method according to Claim 14, characterized in that wherein said object [[(81)]] is a lesion of an internal tissue, typically a cartilage tissue of an articulation (8) or the like.

16. (Withdrawn - Currently Amended) The method Method according to Claim 14, wherein characterized in that said step of associating a reference device [[(5)]] with the object [[(81)]] to be evaluated comprises the step of associating [[a]]the screen [[(5)]] with the object.

17. (Withdrawn - Currently Amended) The method Method according to Claim 14, wherein characterized in that the step of associating a referenced device [[(5)]] with the object [[(81)]] comprises introducing said reference device [[(5)]] inside an arthroscopy guide [[(7)]] in the folded-up condition, unfolding the reference device [[(5)]] in the vicinity of the object [[(81)]] and extracting it, again in the folded-up condition, through said guide [[(7)]].

18. (Withdrawn - Currently Amended) The method Method according to Claim 14, wherein characterized in that the step of acquiring at least one image of the object [[(81)]] associated with the reference device [[(5)]] comprises illuminating the surgical site, acquiring at least one image of the object when associated with the reference device [[(5)]] comprises illuminating the surgical site, acquiring at least one image of the object when associated with the reference device [[(5)]] and displaying said at least one image on an arthroscopic monitor [[(10)]].

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19. (Withdrawn - Currently Amended) The method Method according to Claim 14, wherein characterized in that the step of processing the images comprises using morphometric processing techniques.

20. (Withdrawn -Currently Amended) The method Method according to Claim 14, wherein said method is characterized in that it may be performed entirely by a machine.

21. (Withdrawn - Currently Amended) The method Method according to 14, further comprising characterized in that it comprises the further step of shaping a cartilage tissue [[(12)]], prepared in a laboratory from primary or stem cells, on the basis of the form and estimated extent of the cartilage lesion[[(81)]].

22. (Withdrawn - Currently Amended) The method Method according to Claim 21, wherein characterized in that said step of shaping the cartilage tissue is performed using laser cutting instruments[[(11)]].

23. (New) The surgical instrument according to claim 1, wherein said screen, when in said unfolded state, has a circular shape.

24. (New) The surgical instrument according to claim 6, wherein said screen, when in said unfolded state, is larger than a diameter of said guide barrel.

25. (New) The surgical instrument according to claim 7, wherein said screen is connected to said support arms at distal sections.

26. (New) The surgical instrument according to claim 11, wherein said wire is connected to the center of said screen.

27. (New) The surgical instrument according to claim 1, wherein said screen has square shaped meshes of a size from 0.5 mm to 1.5 mm.

28. (New) A surgical instrument for geometrical evaluation of an object inside a body of a human being or animal, the instrument comprising a handle, a reference device and means for bringing said reference device into the vicinity of said object, wherein said instrument is adapted to co-operate with an image acquisition device for acquiring at least one image of said reference device when it is in the vicinity of said object,

wherein said reference device comprises a screen,

wherein said screen can be brought from a first fold up state to an unfolded state and to a second fold up state, wherein said unfolded state is the state when said screen is in the vicinity of said object and said at least one image is being acquired and wherein said second fold up state is the state when said screen is recalled

wherein said screen, when in said unfolded state, is larger than a diameter of said guide barrel,

wherein said surgical instrument comprises a guide barrel and a shank sliding inside said guide barrel, the guide barrel being able to be inserted inside the body and having a proximal end in the vicinity of the handle and an opposite distal end which is open,

wherein the shank has a head-piece with support arms, and wherein said screen is connected to said support arms.